Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Joint Application by BellSouth Corporation,	)	
BellSouth Telecommunications, Inc.	)	CC Docket No. 02-35
and BellSouth Long Distance, Inc, for	)	
Provision of In-Region, InterLATA	)	
Services in Georgia and Louisiana	)	
	)	

DECLARATION OF CHRIS FRENTRUP
ON BEHALF OF WORLDCOM, INC.

Based on my personal knowledge and on information learned in the course of my duties, I, Chris Frentrup, declare as follows:

I. INTRODUCTION AND SUMMARY

1. My name is Chris Frentrup. I am employed by WorldCom, Inc. ("WorldCom") as a Senior Economist in the Public Policy Analysis Group of the Federal Advocacy organization. In that position, I am responsible for analyzing economic issues relating to telecommunications industry regulation and public policy, and assisting in the development and advocacy of WorldCom's public policy positions. I have participated in the development and advocacy of the HAI Model, a model used in the estimation of telecommunications network costs. I have also worked extensively on the assessment of local exchange carrier productivity in the Commission's price cap proceedings.

2. The purpose of my Declaration is to demonstrate that BellSouth's current unbundled network element ("UNE") rates in Georgia and Louisiana are not based on total

element long run incremental cost ("TELRIC"), despite BellSouth's claims to the contrary in its recently filed section 271 application. See BellSouth October 2 Brief at 40.[1]

3. First, in both Georgia and Louisiana BellSouth incorrectly uses different technologies to model loop costs, depending on the intended use of the loop. This approach means that the cost model does not capture all the economies of scale inherent in the network, and results in excessive loop rates. Even when BellSouth does model its costs using the integrated digital loop carrier ("IDLC"), it fails to use only IDLC which meets the GR-303 industry standard, which is the forward-looking and lower cost technology.

4. Second, BellSouth uses unsupported and excessive "in-plant" or loading factors in both states to determine the cost of engineering, furnishing and installing its plant. It is clear that these factors add significantly to the cost of UNEs, and that they exceed reasonable levels. The development of these factors is not adequately described in BellSouth's documentation, however, so it is impossible to determine the degree of error.

5. Third, in developing its UNE costs in Georgia, BellSouth uses several inputs that are inconsistent with TELRIC principles. The assumed drop lengths used to set loop rates imply an implausibly large average lot size, especially in the more densely populated zones. Furthermore, the mix of residence and business lines that BellSouth uses to compute the statewide average loop costs is inconsistent with the mix reported by BellSouth in ARMIS, and with the mix used in the Synthesis Model ("SM").

1 BellSouth incorporates by reference all information included in support of its previous section 271 application, filed October 2, 2001 and subsequently withdrawn. BellSouth presents no new information regarding the development of the costs for UNEs in its February 14, 2002 section 271 application. This declaration addresses the costs issues as described in the October 2001 section 271 application and ex parte filings made in this docket and in docket 01-277.

6. Fourth, BellSouth double-recovers shared and common costs. BellSouth assess Optional Daily Usage Files ("ODUF") and Access Daily Usage Files ("ADUF") charges on competitive local exchange carriers ("CLECs") that need to obtain certain billing information. However, the costs that are recovered in these charges are already recovered in other UNE rates. Thus, the ODUF and ADUF charges should be set to zero, or alternatively the other UNE rates should be reduced to remove this double recovery.

7. For all of these reasons the Commission should reject BellSouth's application. Until these errors are fixed, CLECs will be required to pay excessive UNE rates, to the detriment of competition and the harm of consumers.

II. BELLSOUTH'S UNE RATES IN GEORGIA AND LOUISIANA DO NOT COMPORT WITH TELRIC PRINCIPLES

8. In setting its rates for UNEs, BellSouth and the Georgia and Louisiana Public Service Commissions ("PSC") made a number of methodological and input choices that fail to comport with TELRIC principles. Because correcting some of these errors would require redesigning certain aspects of the cost models, WorldCom is not able to quantify the precise effect of all of these errors. Other errors, however, can be corrected by an input change, and the effect of correcting these errors is quantified to the extent possible in the discussion infra. The net effect of all these errors is that UNE rates are currently set significantly above their TELRIC levels.

III. THE METHODOLOGIES USED TO SET UNE RATES IN GEORGIA AND LOUISIANA ARE NOT TELRIC-BASED

9. WorldCom has identified several input and model design issues that result in an overstatement of costs in both Georgia and Louisiana.

A. Shifting Methodologies

10. BellSouth improperly uses multiple scenarios with different mixes of IDLC and universal digital loop carrier ("UDLC") to compute different rate elements. For example, incorrectly claiming that unbundled loops cannot be served by IDLC, BellSouth runs its loop model using all UDLC for stand-alone loops, while using a mix of UDLC and IDLC for UNE platform loops.[2] In addition, BellSouth performs runs of its models with no DLC of any kind to price asymmetric digital subscriber loops ("ADSL").

11. This approach is inconsistent with a TELRIC methodology for two reasons. First, it fails to use the forward-looking technology – IDLC – in cases where fiber feeder is used. This error is compounded by BellSouth's failure to model the use of only IDLC that meets the forward-looking industry standard GR-303 protocol. Contrary to BellSouth's assertion, unbundled loops can readily be provisioned from IDLC that uses the GR-303 protocol, and failure of its cost model to do so means that the model does not meet the forward-looking, least cost mandate of the TELRIC requirement. In addition, by running different scenarios with different mixes of IDLC and UDLC, BellSouth is not following the TELRIC requirement that a model reflect all uses of the network. Modeling different networks for different purposes results in loss of the economies of scope that occur in a multi-use network. Thus, the cost models that BellSouth uses to develop its loop rates clearly violate cost-based TELRIC principles.

2 See Caldwell Affidavit at 22 for Georgia and at 30 for Louisiana.

12. It is not possible to quantify exactly the effect of this error but it is substantial. Correcting the error would require re-designing BellSouth's cost model so that all digital loop carrier used was GR-303 compliant IDLC. It is nevertheless clear from BellSouth's cost model results that use of IDLC would significantly lower the cost of a loop. For example, in Louisiana, the unbundled stand-alone loop cost, which is developed from a model that uses only UDLC, is about one dollar a month more than the same loop when it is sold as part of a UNE platform, which uses IDLC, not all of which meets the GR-303 standard.[3] If the UNE platform loop were provided using only GR-303 compliant IDLC, this cost difference would be even greater, resulting in an even lower UNE platform loop cost.

B. Loading Factors

13. Further, the BellSouth cost models fail to comply with TELRIC in their computation of total plant investment through the application of "in-plant" or loading factors to the material investment. The equipment prices that are used as inputs in the cost models are only the price of the materials themselves – the switch, copper cable or fiber cable itself. The engineered, furnished, and installed ("EF&I") cost of the equipment is then determined by applying factors to that material cost.

14. The manner in which these factors were developed is not described in BellSouth's documentation of its cost models. It is clear these factors are excessive, but until BellSouth adequately describes the development of these factors, it is impossible to determine the extent to which they accurately reflect legitimate costs of designing and placing the

3 The prices for a stand-alone loop in the three zones in Louisiana are $12.90, $23.33, and $48.43. The corresponding prices for the platform loop are $11.77, $22.39, and $48.26. See Caldwell Affidavit, Exhibit DDC-5, pages 1 and 5. The percentages of lines reported by BellSouth in the three zones are 72, 23, and 6 percent, respectively. See id. at 56. This results in weighted average prices of $17.30 for stand-alone loops, which have no

equipment, or the extent to which they are designed merely to increase the forward-looking costs of the equipment to match BellSouth's embedded costs.

15. These factors add a significant amount to the total cost of the UNEs. For example, in Georgia the cost of an unbundled loop is more than doubled by use of these factors. In the decision on the Rhode Island 271 application, the Commission stated that the 60 percent loading factor used to set switching rates was excessive, so a factor that is over 100 percent cannot be reasonable.[4] Even cutting the loop rate to the 60 percent loading factor that was found excessive in Rhode Island would cut the loop costs by at least 20 percent.

16. Further evidence that the factors are improperly determined is the fact that they vary substantially from state to state by more than can be explained by any labor or other cost differences. In addition, because BellSouth applies the same loading factors to all sizes of equipment, these factors add a great deal more total cost to areas that are served by large switches or cable sizes, i.e., primarily the more densely populated areas of the state. This difference occurs despite the fact that the cost for laying a cable or placing a switch does not vary linearly with size; e.g., it does not require twice as much expense to lay a 2400 pair cable as it does to lay a 1200 pair cable.[5] Thus, the application of a single factor to determine EF&I costs overstates BellSouth's UNE costs, especially in more densely populated areas.

IV. SEVERAL OF THE INPUTS SELECTED TO SET UNE RATES IN GEORGIA ARE NOT COST-BASED

IDLC, and $16.27 for platform loops, which include some IDLC.

4 See Rhode Island Order at ¶ 35.

5 Recognizing this fact, the Commission determined the cable costs inputs in the Synthesis Model using a method that assumed that the engineering costs were a fixed amount per foot. See *Federal-State Joint Board on Universal Service, Forward-Looking Mechanism for High Cost Support for Non-Rural LECs*, CC Docket Nos. 96-45, 97-160, Tenth Report and Order, 14 FCC Rcd 20156 (1999) (*Tenth Report and Order*), *affirmed*, *Qwest Corp. v. FCC*, 258 F.3d 1191 (10th Cir. 2001), at Appendix B.

17. In addition to these methodological problems with BellSouth's cost models, which apply in both Georgia and Louisiana, there are certain input values selected in Georgia that are inconsistent with TELRIC principles.

A. Drop Lengths

18. BellSouth assumed an aerial drop length of 250 feet and a buried drop length of 300 feet. These lengths are unreasonably long. The BOC Notes on the LEC Network reports a national average drop length of 73 feet. The SM used drop lengths of 150 feet in the two most rural zones, and 50 feet in the more urban zones. Thus, the drop lengths used by BellSouth in setting its UNE rates are substantially longer than either the national average or the drop lengths found reasonable by the Commission for purposes of modeling universal service costs.

19. At the very least, these drop lengths are excessive in the urban and most suburban zones. This is made apparent by computing the average lot size implied by these drop lengths. BellSouth states that its cost model assumes that the drop runs from the corner of the lot to the customer's location.[6] Assuming that the house or business is in the middle of the lot, one can compute the lot size implied by the assumed drop lengths.[7] A drop length of 250 feet implies an average lot size of 2.9 acres if the lots are square, and 2.3 acres if the lots are twice as deep as they are wide.

20. Use of a single drop length for all customer locations in Georgia implies that, even in urban and suburban zones, customers are located in the middle of 2 to 3 acre lots.

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6 Id. at 21, fn 5.

7 Application of the Pythagorean Theorem will derive the lot frontage and depth, given a drop length, D, and an aspect ratio (the ratio of lot width to lot depth), A. The lot size in acres can be derived as 4 * A * D^2 / (1 + A^2) / 43,560.

This is simply not plausible. The drop lengths used to set UNE loop rates should vary by line density, to reflect the fact that customers are more geographically concentrated in more densely populated areas. Use of BellSouth's excessive drop lengths inflates the computed cost of its loop, and results in excessive UNE loop rates. Assuming very conservatively that the urban and suburban areas would have drop lengths at the national average drop length of 73 feet would lower loop rates in those areas by $0.14.

B. Mix of Residence and Business Lines

21. In Georgia, BellSouth determined the cost of residential and business loops, and then determined the statewide average cost by taking a weighted average of these types. The weighting used was approximately 78 percent residence and 22 percent business.[8] These weights are not consistent with the mix of residence and business lines reported by BellSouth in its latest ARMIS filing, or with the mix used in the SM. Both those sources reflect a weighting of about 67 percent residence and 33 percent business. BellSouth acknowledges that the residence lines are the higher cost lines, so the statewide average computed by BellSouth is overstated. Using the residence and business weightings from ARMIS lowers loop rates by $0.32.

8 Id. at 21.

C. Net Effect of Input Changes

22. Making both these input changes together reduces the loop cost reported by the model by $0.45.[9] This reduction does not include the effect of either of the methodological flaws regarding the treatment of IDLC and the use of excessive loading factors. Correcting these two additional errors would further reduce BellSouth's loop costs, in both Georgia and Louisiana.

V. FEATURES COSTS SHOULD NOT INCREASE SWITCHING COSTS

23. In Louisiana, BellSouth claimed additional costs for providing features. The separate rate for providing features was rejected, but the expenses claimed by BellSouth were put into the usage rate, increasing the monthly cost of switching per line by about $2.20 per line per month.

24. As was argued in the Lousisiana docket, vertical features do not cause BellSouth to incur any incremental cost over and above the costs already included in the rates for switching and usage. The potential costs of features include both hardware – the switch processor – and software. However, features cause incremental hardware costs only if they require the purchase of a larger processor than would be necessary in the absence of the provision of those features. That such an upgrade in the processor is unnecessary is demonstrated by two facts. First, BellSouth sizes its switch based only on busy hour minutes of use. Thus, processor capacity is not causing an increase in switch investment. Second, switches are almost always "line constrained," which means that the switch runs out of ports before the processor capacity is exhausted. For these two reasons, the provision of features is not causing additional hardware costs in the switch.

25. Similarly, no additional software costs are necessary to provide features. The software used to provide features is included in the generic switch software that is included with the switch. Thus, there are no additional software or hardware costs for features beyond those that are already reflected in the switch usage rates. Adding such costs to the switch usage charge inflates that rate above its costs. BellSouth's switch usage costs are therefore overstated by this amount. Inclusion of this amount in usage charges is in violation of TELRIC principles, and the amount should be removed from the usage charges in Louisiana before section 271 approval is granted

VI. DAILY USAGE FEED RATES ARE EXCESSIVE

26. BellSouth proposes to assess ODUF and ADUF charges on CLECs to provide them with usage records for billable call events recorded by BellSouth's central offices. However, BellSouth does not typically charge other local exchange carriers for the same information, using a "bill-and-keep" arrangement instead. Apparently recognizing the excessive nature of its current charges, BellSouth has recently proposed to reduce these charges in Georgia substantially.[10]

27. These excessive charges add significantly to the cost of serving a customer. Assuming that these charges are assessed only for the originating side of a call, WorldCom estimates that the monthly charge for an average customer for these charges will be at least $1.12 in Georgia and $0.55 in Louisiana.

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9 This is less than the sum of the individual changes because of interaction between the input changes.

10 The sum of ADUF processing and transmission charges was cut from $0.007994 to $0.0019808, while the sum of ODUF processing, transmission, and recording charges was cut from $0.0046986 to $0.0026147. See Exhibit CKC-1, filed October 1, 2001 in GPSC Docket No. 14361, page 14 of 38. These rates are roughly half the current rates in Louisiana.

28. BellSouth should completely eliminate these charges, because the costs recovered in these rates are already reflected in the shared and common costs that BellSouth adds on to the direct costs of its other UNEs to develop those UNE rates. Retaining the ODUF and ADUF charges would double-recover these costs and should not be permitted. At an absolute minimum, the costs for ODUF and ADUF should be completely removed from the shared and common costs recovered in the other UNE rates.

VII. CONCLUSION

29. The problems with the BellSouth cost models and the inputs indicate that the resulting UNE costs are clearly not cost-based, although the full magnitude of the error cannot be determined on the partial information provided in BellSouth's application. Unless BellSouth corrects its UNE rates to adjust for the problems outlined here, the Commission should reject BellSouth's section 271 application for Georgia and Louisiana.

30. This concludes my Declaration on behalf of WorldCom.

I declare under penalty of perjury that the foregoing is true and correct. Executed on March 4, 2002.

/s/ Chris Frentrup
Chris Frentrup